CLAIMS:

1. An opioid compound of general formula I

[opioid-N]-[spacer]-[charged group],

I

in which an opioid compound is linked via the nitrogen at position 17 to a spacer group, which in turn is linked to a charged group,

or a pharmaceutically acceptable salt thereof.

2. A compound according to Claim 1, in which the spacer is a straight or branched alkyl, alkenyl or alkenyl chain of 1 to 6 carbon atoms, which may optionally be substituted.

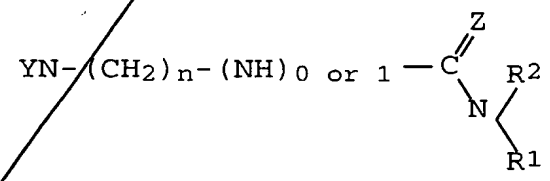
3. A compound according to Claim 1, in which the spacer is a cyclic alkyl, alkenyl or alkynyl group, which may optionally be substituted.

4. A compound according to any one of Claims 1 to 3, in which the spacer group is unsubstituted.

5. A compound according to any one of Claims 1 to 4, in which the spacer group is of 2 to 3 carbon atoms.

6. A compound according to any one of Claims 1 to 5, in which the charged group is an amidine or guanidine group.

7. A compound according to Claim 1, of general formula (II)



in which

YN- represents an organic residue obtained by removal of the R group from an opioid compound of general formula

YN-R

(IIIa)

wherein R is H, alkyl of 1 to 6 carbon atoms, or cyclopropylmethyl,

or of the general formula

$$Y^1\text{-}N(R^4)\text{-}R$$

(IIIb)

wherein R^4 is methyl or ethyl, and

Y^1-NR^4 represents the corresponding organic residue;

Z is O, S or NR^3;

R^1 is H_1, alkyl or aryloxyalkyl, wherein the aryl group is optionally substituted by alkyl, alkoxy, halogen, or alkyl substituted by halogen, and alkyl, alkoxy and the alkyl moiety of aryloxy alkyl have 1 to 6 carbon atoms;

R^2 is H or an alkyl group having 1 to 6 carbon atoms;

R^3 is H, alkyl, hydroxy, amino, cyano or acyl, wherein alkyl and acyl have 1 to 6 carbon atoms;

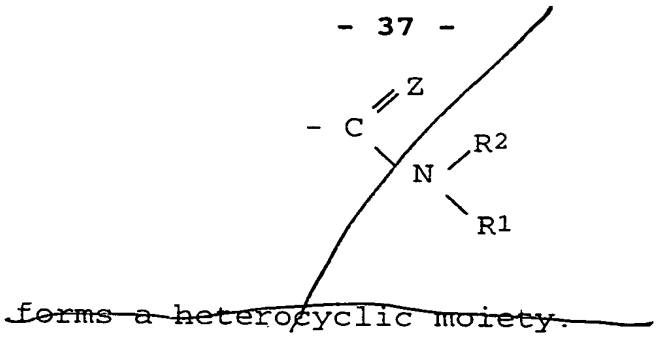
n is an integer of 1 to 6,

and wherein

R^1 and R^3 may together complete an addition ring,

~~or a pharmaceutically acceptable salt thereof.~~

8. A compound according to Claim 7, in which R^1 and R^3 together complete an addition ring, and the grouping



~~forms a heterocyclic moiety.~~

9. A compound according to Claim 8, in which the heterocyclic moiety is a 2-imidazolyl or 2-imidazolinyl group of formula:

10. A compound according to Claim 8 or Claim 9, in which R is CH_3.

11. A compound according to any one of Claims 8 to 10, in which n is 2 or 3.

12. A compound according to any one of Claims 8 to 11, in which Z is NH, and R^1 and R^2 are both H.

13. A compound according to any one of Claims 8 to 11, in which the precursor of YN- or Y^1NR^4- is a compound selected from the group consisting of morphine, codeine, heroin, ethylmorphine, O-carboxymethylmorphine, O-acetylmorphine, hydrocodone, hydromorphone, oxymorphone, oxycodone, dihydrocodeine, thebaine, metopon, etorphine, acetorphine, ketobemidone, ethoheptazine, diprenorphine (M5050), buprenorphine, phenomorphan, levorphanol, pentazocine, eptazocine and metazocine.

14. A compound according to Claim 13, in which the precursor of YN- or Y^1NR^4- is morphine, codeine or buprenorphine.

15. A compound according to Claim 1, in which the opioid compound of formula (IIIa) or (IIIc) is selected from the group set out in Table 1.

16. A compound according to Claim 1, in which the compound of general formula I is selected from the group consisting of KRS-41, KRS-2-19, KRS-3-7, KRS-3-23-4, KRS-3-28, KRS-3-30-2, KRS-3-56, KRS-2-63, KRS-4-8, and KRS-2-47, as herein defined.

17. An opiate receptor agonist having analgesic properties and having reduced or no CNS activity, of general formula I or general formula II as defined in any one of claims 1 to 16.

18. A method of reducing the central nervous system activity of an opioid compound, comprising the step of linking the nitrogen atom at position 17 of said compound to a spacer group, which in turn is linked to a charged group, optionally via a spacer group.

19. A method for the preparation of a compound of formula II as defined in any one of Claims 8 to 14, in which YN- may be replaced by Y^1NR^4-, comprising the steps of

(a) Reaction of a compound of formula

YN-H

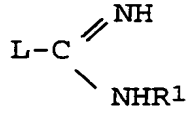
(IV)

with a cyanamide, R^1NHCN, according to the equation

$$YN\text{-}H + R^1NHCN \rightarrow YN\text{-}C(=NH)\text{-}NHR^1$$

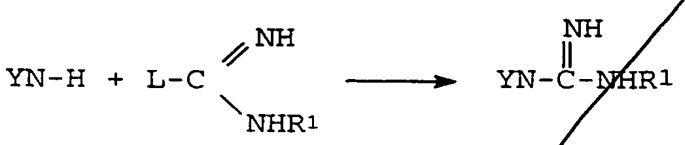
or

(b) Reaction of a compound of formula (IV) with a compound of formula



(V)

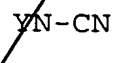
wherein L is a leaving group, according to the equation



Sub All Cont

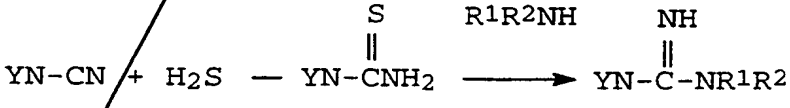
20. A method for the preparation of a compound of formula II as defined in any one of Claims 8 to 14 in which Z is NR^2, comprising the steps of

(a) Reaction of a compound of the formula



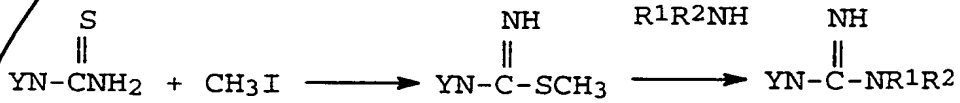
(VI)

with H_2S to obtain an N-thiocarboxamide YN-$CSNH_2$, which is reacted with an amine R^1R^2NH according to the two-stage equation



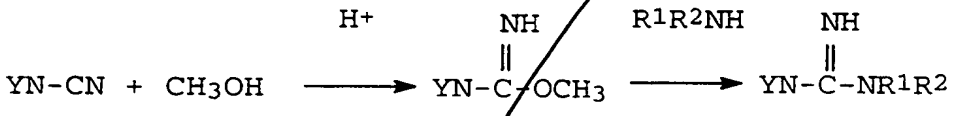
to yield compounds of the invention where Z is S and where Z is NH, or

(b) Methylating the N-thiocarboxamide to yield an isothiourea compound, which is in turn reacted with an amine R^1R^2NH:

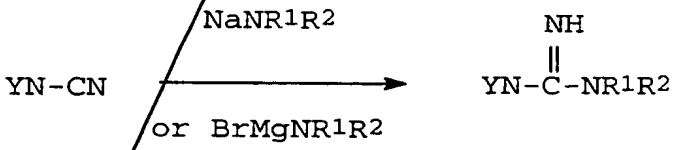


21. A method of synthesis of a compounds of formula (II) as defined in any one of Claims 8 to 14, comprising the step of reacting an N-cyano compound of

formula (VI) as defined in Claim 19 with methanol under acidic conditions to yield an isourea, which in turn is reacted with an amine according to the equation



22. A method of synthesis of a compound of formula (II) as defined in any one of Claims 8 to 13 in which Z is N, comprising the step of reacting an N-cyano compound of formula (VI) as defined in Claim 19, and a metallated residue



23. A composition comprising a compound according to any one of Claims 1 to 16, together with a pharmaceutically acceptable carrier.

24. A method of inducing analgesia, comprising the step of administering an effective amount of a compound according to any one of Claims 1 to 16 to a mammal in need of such treatment.

25. A method according to Claim 23 in which the mammal is a human.

26. Use of a compound according to any one of Claims 1 to 16 in medicine.

27. Use of a compound according to any one of Claims 1 to 16 for the manufacture of a medicament for inducing analgesia.